

SPORE PRINTS

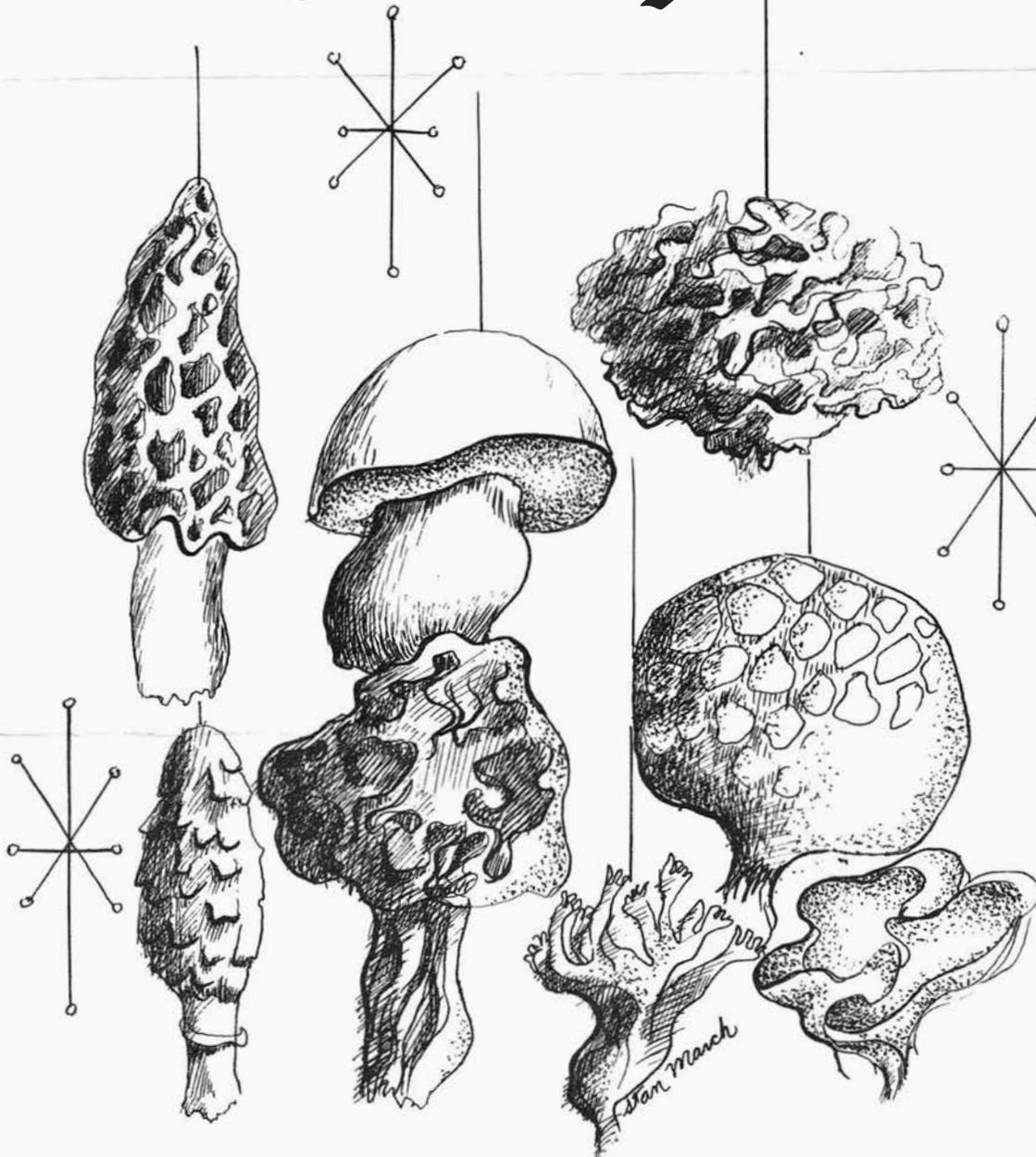
BULLETIN OF THE PUGET SOUND MYCOLOGICAL SOCIETY
200 Second Avenue North, Seattle, Washington, 98109

December 1978

Number 147



Season's Greetings





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Spore
Prints

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PUGET SOUND MYCOLOGICAL SOCIETY
 c/o The Pacific Science Center, 200 - 2nd Avenue No.
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 Hildegard Hendrickson, 2559 NE 96th, Seattle, 98115.

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ALTERNATES Dennis Krabbenhoft (839-2454) Stan
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SCIENTIFIC ADVISER Dr. Daniel E. Stuntz

Calendar

- Dec. 4 Monday, Membership Meeting, 8:00 pm
NOTE THIS IS ONE WEEK EARLIER THAN THE
 NORMAL MEETING DATE
- Dec. 18 Board Meeting, 8:00 pm
- Dec. 22 Deadline for Spore Print Material, Send all
 articles, art work, and photos, to the Editor
 2559 NE 96th, Seattle, WA 98115.
- Jan. 8 Monday, Membership Meeting, 8:00 pm
- March 17 The 15th Annual Survivors Banquet

DUES FOR 1979 ARE DUE

Please use the enclosed renewal slip for renewing your PSMS membership for 1979. Send this slip, together with your check to Joy McKnight (our membership chairman) at her home address 5610 - South 121st, Seattle, WA 98178. (Joy keeps the membership records at her home, and sending the renewals to her home, makes her job a lot easier). Joy will be at the December Membership Meeting, so that you may renew in person. Dues are \$10 for family memberships; \$7 for single memberships, and \$5 for student memberships.

(NOTE to our NEW MEMBERS : If you have joined PSMS since September 1978 your dues are paid up through 1979, and the above notice does not apply!)

Membership Meeting

Monday, December 4, 1978, 8:00 pm Eames Theater,
 The Pacific Science Center

NOTE THE CHANGE IN THE DATE OF THIS MEETING

Program: By popular request we repeat Photography Night -
 followed by a Social Hour.

Ed Cantelon has selected the favorite mushroom, people, or other pictures taken by our membership; They will be shown with a short narration by the photographers.

After viewing the photos and slides, a Social Hour with cookies and coffee will follow, to introduce the Christmas Season. Be sure to attend, and get acquainted with your fellow PSMS members, "old" and "new".

Note: Anyone who wants to show slides, can still contact Ed Cantelon (phone 242-6115). But do it TODAY.

AND DON'T FORGET TO BRING THE COOKIES !

BOOK SALES : Helen Wasson will have books for sale, but only BEFORE the meeting. Remember, members get a discount, and they make lovely Christmas presents. To be sure to get the book of your choice, you might want to call Helen (phone 243-6173) before the meeting and put in your order.

THINK ELECTIONS

Lyle McKnight has been appointed chairman of the Elections Committee (other members are Dick Sieger and Sally Ann Hansen). This committee is charged in presenting the membership with a slate of candidates for the coming elections. Anyone interested and willing to be a candidate should contact one of the committee members. It sure would make their job easier.

BOARD NEWS

H.R.H.

There still is no confirmation from the Science Center for the chosen date for the 1979 Exhibit (Oct. 6th). Also there was concern that we will be short on space for the Exhibit and whether the remodeling at the Science Center will be completed in time for the Exhibit. The Science Center Director, Helmut Naumer attended the Board meeting again, and assured that PSMS could have the Eames Theater for the slide presentation during the Show. However, the assurance did not seem to convince the Board, because the Board moved to reserve a hall for the 1979 Exhibit as a back up, in case the Science Center site may not be adequate or suitable. If the Exhibit is held on October 6th, then the October 1979 membership meeting will be moved to the first Monday in October.

Margo Harrison reported that the Survivors Banquet is confirmed for Saturday, March 17, 1979 at the Moose Lodge.

Dick Sieger made a motion to send a donation to the boys at Oakpatch. It was seconded and approved.

A paper in Milwaukee published the picture of the huge Polypore from our Exhibit, and inquired about the proper name.

President Schmitt recommended several books which should be added to our library.

The new edition of the Poison Pamphlet is in progress.

President Schmitt appointed an Election Committee chaired by Lyle McKnight (see below).

YOUR EDITORS WISH YOU A MERRY CHRISTMAS AND
 A VERY HAPPY NEW YEAR - WITH MANY MUSHROOMS

FIELDTRIP REPORT FROM OAKPATCH

Dick Sieger

Deer hunters were out this weekend for bucks and does (and anything goes), but we all returned home safe. 51 people were greeted by Mildred and Emory Bronner, and Andy and Betty Yuhl. It was nice to have Martin Hansen with us once more. He brought his daughter (who now lives in California) with him. 34 people enjoyed pot luck dinner in the camp's dining room.

Pot hunting was limited, but some late Armillaria ponderosa were found as well as Chanterelles, Dentinum repandum, Leccinum aurantiacum, and Tricholoma equestre. There were Craterellus cornucopioides, a chanterelle we don't see often because of its association with oak. The small, garlicky Marasmius scorodoni was abundant and someone found a lovely large earth star, Geastrum triplex. Seventy-six species were identified by Jennie Schmitt, assisted by George Rafanelli and Howard and Fay Melsen.

The staff and residents of Oakpatch gave us their usual friendly help and made us feel welcome, contributing to an enjoyable field trip.

Millersylvania Field Trip Report

Grace Jones.

Thirty-two people showed for our last field trip of the season held November 4 & 5. The weather was beautiful and the woods were dry in spite of the horrible storm on Friday night.

Bob and Betty Hamilton brought the field trip gear, and had the coffee going by the time we arrived. Dave Schmitt and a couple of other fellows got a load of wood from a nearby saw mill, so we had a nice warm fire going all the time. It was especially nice for the twenty-eight people who stayed for the pot luck.

Jack Orth lost his truck keys while hunting mushrooms Saturday afternoon. He had to hot-wire it. Margaret Holzbauer went to the same place Sunday morning, and found them. Was Jack ever surprised (and happy).

In spite of the late season, 62 specimens were found for Jennie Schmitt and George Rafanelli to identify.

Margaret and I had the shelter swept out with fir boughs by the time the Ranger came around Sunday morning. He was quite impressed with our group because we were so ORDERLY CLEAN, and QUIET. I'm sure we will be welcome again.

REPORT ON THE ENOLOGICAL - MYCOLOGICAL SOCIETY DINNER

H.R.H.

Those members of PSMS who also are members of the Enological Society were the first ones to sign up for this dinner, since they knew what a treat the Enological Society Dinners are. And with wild mushrooms added to the menu, they could only get better. We first-timers were astounded by the amount of volunteer work which is required, since the members do all the tasks themselves (shopping for the food and wines; setting and decorating the tables; preparing and cooking the meal; as well as the clean up). Several PSMS members assisted in the many chores.

Generally, the cooking is supervised by Francois Kissel, who however, was sick on this day, but had sent detailed instructions.

The evening started with a Sherry and an hors d'oeuvre of French pastry. For me the "star" of the menu was the next course, Ramekin Forestier au Sancere, an absolutely fantastic

French sauce with mushrooms (my portion contained mostly Boletes, others said they had Chanterelles) served with a German Riesling. The main course, roast veal was accompanied by a delicious dressing which included Matsutake, and by carrots, and the appropriate red wine. Then followed a green salad with watercress and with Francois' special (secret) dressing, and two French cheeses, again served with the appropriate red wine. The dessert was custard with caramel sauce, served with a delightful port.

Two members of a table alternated in serving each course which allowed plenty of time in between courses to enjoy each course, and to get acquainted with each other. It was often mentioned during the evening that such a dinner be made an annual affair, since the Enological Society members too enjoyed it, and were very appreciative of the mushroom donations from PSMS members. I concur in this recommendation wholeheartedly.

(Monte adds: "If you didn't, you should've.")

BITS AND PIECES

H.R.H.

The BANQUET preparations are progressing on schedule.

The site of the Banquet, Saturday, March 17, 1979 will be the Moose Lodge. Details will follow in January and February.

THANK YOU - STAN MARCH

The beautiful drawing on the front cover of this month's Spore Prints was contributed by Stan March. Thank you.

BACK - ISSUES OF SPORE PRINTS

At the December Membership Meeting there will be a number of back-issues of Spore Prints available for our new members. We don't have a complete set, but enough to give some information about past PSMS activities.

BUMPER STICKERS

"Mycology is Mushrooming" & "Mycologists Have More Fungi" bumper stickers at \$1.00 each plus 30¢ postage can be ordered from Gwen Luttrell, 9408 Byeford Road, Kensington Md., 20795.

MUSHROOM CLASS

George Rafanelli started a mushroom class for beginners about two weeks ago. This class is held on Mercer Island. It filled rapidly. Watch for announcements about future classes.

CHANGE THE FOLLOWING PHONE NUMBERS

Please change the phone numbers of the following members so they read: Ron & Sharon Boehm: 362-4430; Lawrence Byman: 423-8358; Sally Ann Hansen: 1-297-3626; Helen Karlsson: 789-1582; Jack & Nettie Laycock: 1-475-0963 Keith Simons: 937-3572.

QUOTE IN THE 1897 BOSTON CLUB BULLETIN

"... mistakes ought to work a suspension of the privileges of membership; at least anyone careless about Amanitas should hardly expect to remain an active member."

IN MEMORIAM - HUGO KOPTA

We sadly have to report the death of our charter-member Hugo Kopta. As recently as 1975 he served on the Board of Trustees as the Society's Historian. He brought the love of mushrooming from his native Yugoslavia. Our sympathy goes to his wife Elsa and daughters and families.

Continued from October 1978 Spore Prints.

B. Beetles and Fungi

Some fungi have spores which are carried principally by insects; Ceratocystis spp., for instance, produce their spores on long stalks which are commonly found protruding from the walls of beetle tunnels in wood. These spores are not forcibly expelled as in most fungi, but the ascus walls dissolve into a watery, absorbent film which swells when wet and affords a sticky base for the spores. These spores are picked up on the hairs of any passing beetle or even eaten by them. The fungus is then spread by being rubbed off or by growing from the beetle excrement. The well-known Dutch elm disease is spread in this manner by a bark beetle (Scolytus sp.).

Truffles and some of their relatives which grow beneath the ground have spores which can be spread almost solely by insects, rodents, pigs, goats, dogs, or man. The latter seldom has a keen enough sense of smell to detect the very attractive odor of truffles and often makes use of the others to find these highly esteemed edibles. By actual tests, certain beetles have been found to fly unerringly to a truffle from more than half a mile away. The spores are then spread through the insect's or animal's excrement.

Ambrosia beetles inhabit freshly cut or recently dead or dying wood, wherein the female excavates tunnels or galleries. These beetles eat nothing but the spores of the fungus they cultivate. A fungus associated with an ambrosia beetle common in the twigs of tea leaves has been cultivated, and it was found that if the surface of such a culture is scraped, the fungus quickly produces large numbers of spores. Beetles raised on this substance lived a full and complete life cycle without any other food. As long as the tunnels are occupied by actively feeding ambrosia beetles, no "weed fungi" can bet a foothold. It is not known how they keep a pure culture going without other fungal infestation.

Some of these beetles have structures on their heads that resemble miniature baskets in which they can carry spores of their special fungus to a new home. The "ambrosia fungus" remains with them during their hibernation and migrations. This relationship between fungus and beetle is mutually beneficial and is obligatory for both partners.

A number of other beetles (especially bark-beetles) also carry fungi and eat them to some extent, but they mainly depend on them to kill the trees, thus giving them places to raise their grubs. Dutch elm disease is carried by a bark-beetle that has found the fungus useful. The beetle does not actually invade the bark of healthy trees but takes a more subtle approach; covered with spores picked up in the tunnels, it will feed on the tender buds of a healthy tree and thus inoculates the tree with spores on its hairs and legs. The fungus then grows down through the buds, and in a few years the tree is dying or dead, and the beetle (or its great grandchildren) moves into the affected tree and raises another brood, thus repeating the cycle.

One of the most common insects associated with fungi, especially mushrooms, is the rove-beetle (Staphylinid). They are an extremely widespread but little known group with many undescribed species, and they are for the most part small,

about one-fourth to one-half inch long, and quite slender. They have a habit of carrying the abdomen curled up toward the head (scorpion-wise), since the highly-chitinized wing covers are very short. They scavenge in all sorts of plant and animal material and are the most common I have seen in old or rotted fungi. The larvae live in the decaying material and, as far as I know, do not damage mushrooms until they are too old to eat anyway. A few very large rove-beetles are strictly carrion-feeders at all stages of their development, although I have seen them linger at a well-rotted mushroom for a sip of "nectar."

C. Ants and Fungi

Thousands of different kinds of ants exist in the world. They are considered to be among the most highly developed social insects. Well may we wonder how long it took in time, and why only certain ants came to cultivate fungi, yes even depend in many cases completely on a fungus diet. Entomologists speculate that a "reasonable" explanation can be found in the fact that most ants are liquid eaters, although many are meat eaters as well. Ants take the solid food into their mouths, but few outside of the fungus eaters swallow fluids; instead they put the food they eat into a pouch in the lower part of their mouth. Ants lick and clean themselves and each other frequently; during this "combing," all dirt, pollen, and spores enter the mouth pocket. In this pocket solids are dissolved, liquid is swallowed, and the remains are cast out—usually in a particular rest area of the nest which is usually moist and warm. In these areas we can often find the spores and mycelium of many different fungi growing.

Leaf-cutting ants are mostly tropical species and they gather pieces of leaves which they take to their nests where the fungus spores present are cultivated. They are able to maintain pure culture of certain fungi for years, living from the food of these "mushroom gardens." The fungi associated with this function is in one case a yeast, Tyridomyces, but otherwise are mycelioid.

D. Termites and Fungi

Termites are among the most primitive of insects, and some cultivate fungi for food. Nearly all depend on protozoa in their intestines to digest the wood they eat, but they are better off when the wood is well-rotted by fungi.

In the tropics some termites build enormous nests in which they cultivate their mushrooms in special chambers as do certain ants; but, unlike leaf-cutting ants, they are not entirely dependent upon fungi for food. Although the fungus material is given to the young of all castes, after reaching a certain age, only the "royalty," the reproductive caste, is fed more of this special diet which contains growth-promoting vitamins.

- to be continued -

MUSHROOM - CHEESE DISH (gleaned from KPMS)

4 eggs... pint milk... 1 tblsp. prepared mustard.. 8 - 10 slices of bread... 1/2 lb. favorite cheese... butter.. salt & pepper... chives... 1 pint of your favorite mushrooms. Blend eggs and milk with seasoning. Butter bread and cover with thick slice of cheese. Overlap bread in layers in a greased fireproof dish. Pour the egg mixture on top along with the mushrooms and bake at 350 degrees about 20 min. Sprinkle chives on top before serving. Serves 4. Hmm,good. Sure sounds like a new potluck recipe!